

## OBJECT LOCATION MONITORING SYSTEM

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### ABSTRACT OF THE DISCLOSURE

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An object location monitoring system includes beacons that are spatially distributed throughout an area to be monitored. The beacons transmit interrogation signals that are received and echoed by transponders that attach to moveable objects. Each beacon retransmits its interrogation signal, and any transponder response thereto, to a receiver that measures a time difference between the two signals. This time difference reflects the signal propagation time, and thus the distance, between the beacon and the transponder. One such receiver preferably analyzes the retransmitted signals of multiple (e.g., 50 to 100) beacons. A triangulation method is used to determine the location of each transponder based on the transponder's distances from a set of beacons. In one embodiment, the transponders are provided as or within disposable ID bracelets worn by patients, and are used to track the locations of the patients within a hospital.

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